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POLLUTION SOLUTIONS

**Eleven Ways Ontario Can Take
Action on Climate Change**



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ONTARIO NEEDS AN EFFECTIVE CLIMATE CHANGE PLAN

Taking action on climate change means cleaner air, faster commute times, more comfortable homes, smarter communities, better buildings, and healthier people. Ontarians need a strong plan to reduce carbon pollution to enjoy these benefits now and in the future. There is no time to waste.

Ontarians are already seeing the impacts of extreme weather. This province is warming faster than the global average. In the first half of 2018 alone, extreme weather events inflicted nearly \$1 billion in insured damage in Ontario.¹ The Insurance Bureau of Canada estimates that 1 in 10 Canadian properties will soon be considered too high risk to be insured. The provincial government needs to act to reduce the pollution causing this damage.

Ontario is a make or break player in the fight against climate change. The province can't stop climate change alone, but Ontario is Canada's most populous province and second largest emitter of carbon pollution. What Ontario does or doesn't do will determine whether Canada can do its part to limit global warming and avoid devastating consequences.

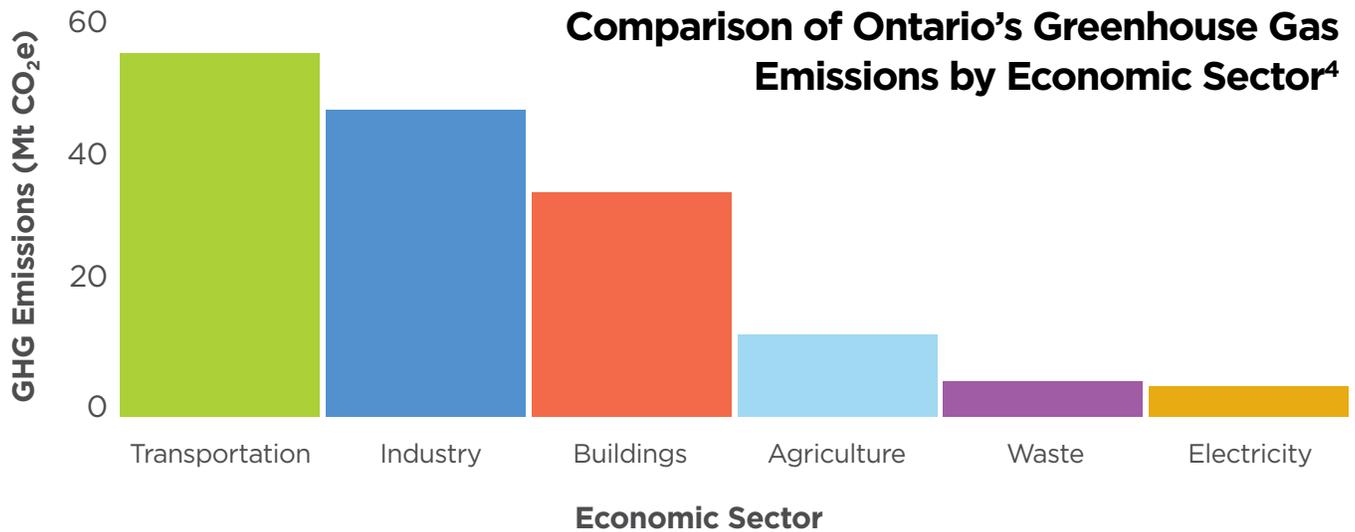
Ontario's new government has acknowledged that climate change is happening, that it's human caused, and that the province must act. The province has promised a plan to fight climate change.

To keep driving down pollution, Ontario will need to take action across the key sectors that are currently the biggest sources of carbon pollution in Ontario.

An effective plan also needs to support a growing economy, create more jobs, and cut energy costs for homes and businesses. This sounds too good to be true, but evidence from around the world shows the vast potential for investment in climate action that supports new jobs and a thriving clean economy. Case in point: Under the guidance of a strong, effective climate change plan, California hit their 2020 carbon emissions reduction goal four years early and grew their economy by 26 per cent at the same time.²

2016 Greenhouse Gas Emissions by Province³

Province or Territory	2016 Greenhouse Gas Emissions
Alberta (AB)	262.9
Ontario (ON)	160.6
Québec (QC)	77.3
Saskatchewan (SK)	76.3
British Columbia (BC)	60.1
Manitoba (MB)	20.9
Nova Scotia (NS)	15.6
New Brunswick (NB)	15.3
Newfoundland and Labrador (NL)	10.8
Prince Edward Island (PE)	1.8
Northwest Territories (NT)	1.6
Nunavut (NU)	0.7
Yukon (YT)	0.4



The three biggest sources of carbon pollution in Ontario are from Transportation, Industry and Buildings.

Photo of Buildings in Mississauga by Bastian, Flickr Creative Commons

WEAKENING EMISSIONS TARGETS IS **NOT** AN OPTION

Every good plan needs a measurable goal — Ontario's climate change plan is no different.

The Intergovernmental Panel on Climate Change (IPCC) recently released a jaw-dropping report telling the world that we're aiming too low to avoid devastating climate consequences. This report arrived at the same time Ontario was passing legislation to cancel its carbon pollution reduction targets, promising to replace them with new targets.

Weakening the targets is not an option. Ontario's targets were ambitious, and still may not have been strong enough to sufficiently reduce carbon pollution to limit warming to 1.5 degrees, which the IPCC says is an important cutoff to avoid catastrophe.⁵ Their research shows that governments should aim to be carbon neutral — that's net-zero greenhouse gas emissions — by 2050.⁶ Ontario's targets aimed to reduce carbon pollution by 80 per cent by 2050, relative to 1990 levels — just shy of carbon neutral.

The stakes are high. Weakening Ontario's carbon emissions targets even to match federal targets means aiming for more than two degrees of warming. This ignores what scientists say we have to do, and hopes others will do the heavy lifting. Ontario has the means and the technology to act now. The province also has a moral obligation, given that Ontario (and

Canada) emitted a much higher amount of carbon pollution over the years than many developing nations who are now suffering the worst impacts of climate change.

Ontario needs to stay the course, and at the very least maintain its previous carbon pollution reduction targets.



THE ELEPHANT IN THE ROOM — CARBON PRICING

Pricing carbon pollution is the most market-friendly solution available to fight climate change. It's designed to have the least impact on a growing economy and household budgets. It's not the only solution, but it's an important tool that has worked well in many other jurisdictions.

Ontario has chosen not to put a price on carbon pollution which means that the federal government's "backstop" will apply. That's why we've excluded carbon pricing from the solutions in this report.

The Ontario government's position on carbon pricing also means there will be limited funds in this province to finance actions in their climate change plan. This is unfortunate, given that a serious plan to fight climate change needs funding.



WHAT SHOULD ONTARIO INCLUDE IN A NEW CLIMATE CHANGE PLAN?

We offer the following eleven planks for consideration for Ontario's new climate change plan. We selected these pollution solutions because they benefit both the environment and the economy. They will:

- Reduce greenhouse gas emissions
- Make Ontario's air cleaner
- Cut energy costs for Ontario homes and businesses
- Support low-income Ontarians, who experience disproportionately more of the negative impacts of climate change

1. Lower natural gas bills and cut carbon pollution with natural gas conservation.

Ontario has many existing programs to help people use less natural gas, which in turn helps reduce gas bills and cut carbon pollution. These programs actually cost less to implement than the savings they create for natural gas consumers. Conserving gas can be as simple as helping people in older homes seal up drafts and add insulation, resulting in up to a 30 per cent reduction in energy use.¹⁰

There is vast untapped potential to expand Ontario's existing natural gas conservation (often called Demand Side Management) programs. **Studies show these programs can reduce Ontario's gas costs by \$85 billion by 2030, and cut greenhouse gas emissions from natural gas by 17.8 per cent.** To put this in perspective, for every \$1 invested, natural gas conservation saves \$2.50 for customers. This conservation does not require any government funding as it is funded by ratepayers, who then benefit from lower rates.¹¹

The Ontario government can increase natural gas conservation quickly with a directive to the Ontario Energy Board to expand natural gas conservation programs to their full potential. Utilities like Enbridge run successful conservation programs, but there's still room for more. Why not spend more to save more?



Natural gas conservation can help reduce gas bills and cut carbon pollution

2. Tighten up energy efficiency standards by updating the Ontario Building Code.

Almost one quarter of Ontario's carbon pollution comes from heating and cooling buildings. This number would drop quickly if buildings were held to tighter energy efficiency standards. Updating codes and standards also costs very little for government to implement.

Updating the Ontario Building Code is a prime opportunity to ramp up energy efficiency standards. Taking steps like requiring airtightness testing, transitioning to performance targets, or giving local governments more power to move faster on their own low-carbon building standards would make a big dent in carbon emissions.¹² Low-carbon building standards have the added advantage of paying for themselves over time, thanks to lower energy bills and built-in resilience to the impacts of climate change. Updating the Ontario Building Code addresses both climate change mitigation and adaptation.

Many older buildings were constructed when energy efficiency was less of a priority, and will still be standing for decades to come. The Ontario Building Code should also be updated to require minimum energy efficiency standards for all major building renovations, not just new additions.

An updated Ontario Building Code can also require new buildings to accommodate clean technology like rooftop solar panels, solar hot water, and electric vehicle charging capacity. These technologies will not only reduce energy consumption, but will also prepare Ontario buildings for future extreme weather by adding on-site energy sources.

Ontarians support a stronger building codes and standards. **In fact, according to polling, 95 per cent of Ontarians support regulations to require buildings be more energy efficient.**¹³

Ontarians support stronger building codes and standards to make buildings more energy efficient



3. Help Ontarians cut costs and build resilience by generating clean renewable energy.

Clean, renewable energy offers huge potential for both cutting household energy bills and cutting carbon pollution. Clean technologies like rooftop solar panels and geothermal energy are often much cheaper sources of energy in the long-term, particularly in remote areas where expanding natural gas infrastructure is costly, and many people rely on expensive oil and propane heating.

Supporting local energy sources also helps communities adapt to climate change. In the event of power outages or fluctuations in energy prices, communities with access to local renewable energy will have greater resilience to withstand extreme weather events.

Ontario's current net metering program is already helping households who generate their own clean energy. Households can feed power into the grid when they don't need it, and take power back when they do. But this program needs fine-tuning and expansion to meet the needs of all Ontarians wanting to tap into it.

Ontario should expand net metering to allow Ontarians without access to a roof to share ownership of a solar or other renewable installation and benefit from the energy it produces. This is called Virtual Net Metering — a policy that's ready for implementation.

Other forward-thinking policies could open up renewable energy projects to allow the market to invest in these solutions and create new jobs right here in Ontario. In many cases, all the government needs to do is cut the red tape holding back these financially viable projects, and let investors do the rest.

Ontario can lower electricity bills and meet future electricity demand with significant investment in adding more renewable energy to the grid.

Renewables are now the cheapest form of new electricity generation in Canada, as they are in many parts of the world. Alberta recently signed contracts for wind power at 3.7 cents per kilowatt hour. In comparison, the average cost in 2016 of natural gas-fired electricity generation in Ontario was above 12 cents per kilowatt hour.¹⁴ Other provinces are jumping on board as renewable prices drop. SaskPower's plan to generate up to 50 per cent of their power from renewables by 2030, cutting their emissions by 40 per cent, is at the centre of Saskatchewan's climate change strategy. Ontario could do the same.



Renewable energy is now the cheapest form of new energy generation in Canada

4. Use strategic government procurement to save money long-term and drive demand for innovative solutions.

In acting on climate change, the provincial government needs to lead by example. Ontario can cut long-term costs and reduce carbon pollution by including criteria like long-term energy efficiency and full lifecycle costing in purchasing decisions.

For example, Ontario's public sector emits about 6.5 million tonnes of carbon pollution every year from hospitals, schools, and other public assets.¹⁵

These buildings are not cheap to operate, especially draughty older buildings which waste energy. Low-carbon procurement policies can do double duty by making these buildings pollute less, and helping government spend less.

Ontario was preparing to use a Life Cycle Costing (LCC) approach in assessing future infrastructure projects. This approach considers both the up-front costs of a project, and the costs that will be incurred later on in the product life — for example, the cost to operate the building, and the cost to tear it down. This means tax dollars are spent with long-term value in mind, rather than just transactional, short-term cost. Implementing this policy could cut energy costs in public buildings, improve the efficiency of government spending, and reduce carbon pollution from buildings.

Government spending represents about 20 per cent of Ontario's economic output.¹⁶ By buying smarter, Ontario can also support efficient, cleaner technologies like energy efficient heating and cooling systems, which create jobs here at home.



Trucks stuck in traffic along Highway 401

5. Implement stronger policies to reduce GHG emissions from freight vehicles.

As Ontario's economy grows, carbon pollution from freight vehicles is growing rapidly along with it. Ontario needs to find solutions that will cut this growing pollution and improve air quality while supporting a thriving economy. Many of these solutions also help relieve traffic congestion by moving freight more efficiently.

For example, Ontario can support better regional freight planning to make trucking routes more efficient. This reduces pollution from idling in traffic, and reduces traffic congestion. Peel Region has been a leader in this area. This region is a significant freight hub for Canada. An estimated \$1.8 billion worth of commodities travel to, from and through Peel every day.¹⁷ Peel's intensive planning to improve, prioritize and preserve goods movement corridors will reduce carbon pollution while enhancing economic activity, and could be a blueprint for others. Ontario could provide funding to support other regions and municipalities in similar freight planning efforts to reduce carbon pollution, relieve congestion, and improve economic activity across Ontario.

Along with improving how freight vehicles move, Ontario should support a shift to cleaner, more efficient vehicles. There are many possibilities here, including:

- A scrappage or 'cash for clunkers' program to replace old inefficient trucks
- Emissions testing and tighter standards for heavy-duty vehicles (this was promised when the Drive Clean program was cancelled)
- A high-emission vehicle feebate program to incentivize cleaner vehicles, which would charge a fee on inefficient, polluting vehicles and use the funds to rebate the purchase of high-efficiency vehicles
- Tax rebates or tax breaks to encourage a switch to cleaner fuels, like low-carbon biodiesel blends, which produce far fewer carbon emissions

6. Invest in smart, evidence-based public transit expansion to reduce carbon pollution from passenger vehicles.

Transportation is the largest source of carbon pollution in Ontario, accounting for 35 per cent of Ontario's carbon emissions. Passenger vehicles are the biggest culprit within this sector. One way to reduce this pollution is to get people onto public transit in places where it makes the most sense to do so.

Ontario should plan public transit expansions – such as subways, Light Rail Transit (LRT), commuter trains and rapid busways – based on where people live, where they will live in the future, and where they need to go. It sounds simple, but many public transit decisions are still out-of-step with growth and density patterns. This means fewer people take public transit, and more people stick with their cars and suffer through painful daily commutes that create more carbon pollution.

Ontario has strong data and evidence it can use to make public transit decisions for maximum impact.

The province can reduce pollution by growing smarter, and aligning public transit decisions with Ontario's Growth Plan.

In addition to expanding public transit, Ontario should shift away from high-pollution vehicles like diesel buses and trains. Municipalities like Toronto and Newmarket have begun switching their bus fleets to electric, which will cut fuel costs in the long-term and reduce pollution. Electrifying GO rail corridors will also cut pollution from existing diesel trains.

Vehicle pollution harms our health. In Toronto alone, air pollution is estimated to cause 1,300 premature deaths and 3,550 hospitalizations each year due to health issues like asthma, lung cancer, and heart disease.¹⁸ Taking action to reduce pollution from cars whenever possible will immediately improve the health of some of Ontario's most vulnerable residents.



Expanding public transit can reduce pollution best when it aligns with Ontario's growth and density patterns.

7. Support a shift to cleaner fuels to cut vehicle pollution.

Cleaner fuels like ethanol and biodiesel create less carbon pollution than traditional gasoline or diesel, and are gaining traction in the market.

Many of these fuels can be blended into traditional gasoline and diesel supply with no noticeable difference. In fact, in Ontario, the gasoline we put in our cars is already about 5 per cent ethanol because the law requires it. A car using ethanol-blended gasoline produces fewer greenhouse gases, carbon monoxide, and other toxic substances. Earlier this year Ontario released new plans to raise the ethanol blending requirement to 10 per cent, which would have the same carbon pollution impact as taking 130,000 cars off the road. This has yet to come into law, but as part of a climate change plan, it could be low-hanging fruit to reduce carbon pollution quickly with little cost to consumers.

But raising blending requirements can only take us so far. Ontario needs to think bigger about setting up systems to incorporate new clean fuels. The idea of a clean fuel standard is taking off in places like British Columbia and California. This market-based solution sets mandatory reductions in carbon intensity of fuels, but doesn't dictate which type of fuel must be used. This technology-neutral approach means fuel suppliers have the flexibility to choose the lowest-cost compliance strategy for them and their customers, which means fuel costs remain affordable.

So far, these systems are working well. **B.C.'s Renewable and Low-Carbon Fuel Requirements Regulation is credited with 25 per cent of B.C.'s emissions reductions from 2007–2012.**¹⁹ These systems can also be adapted so they don't add to the rising cost of living for many low-income people who rely on day-to-day fuel use. For example, California's clean fuel and vehicle policies are designed so that low-income families will save as much as \$1,530 a year in fuel savings by 2030.²⁰

Increasing the number of electric and hydrogen vehicles in Ontario will reduce pollution that harms the health of Ontarians.

Electric school bus photo by Laura Gilchrist, Flickr Creative Commons

8. Invest in low-carbon mobility.

Low-carbon vehicles like electric and hydrogen cars are the way of the future, and their use is expanding rapidly around the world. Government leadership and foresight is needed to make sure Ontario doesn't get left behind as the world moves away from gas-powered vehicles.

Smart policies and programs will encourage a switch to electric and other low-carbon vehicles. Ontario can get the electric motor running with immediate solutions, including:

- Filling gaps in the existing network of charging stations on highways and roads, for example at EnRoute stations
- Supporting drivers ready to make the shift to low-carbon vehicles by providing tax breaks or incentives to encourage uptake
- Investing in electric school buses. **Ontario's 10,000 diesel buses are significant polluters and also have negative impacts on the health of the children riding in them.** Electric school buses can be charged off peak, saving money, reducing pollution, and improving the health of children across Ontario
- Lowering overnight electricity prices to encourage off peak electric vehicle charging



9. Support new low-carbon technologies with a clean innovation fund.

Ontario's government has promised to create a special emissions reduction fund as part of their plan to fight climate change. This fund, if implemented properly, can help clean technology innovators continue to thrive and create jobs here in Ontario, and help large polluters switch to cleaner technologies.

This new fund will need clear criteria to ensure it supports technologies with significant carbon pollution reduction impacts in Ontario, and supports businesses creating jobs and economic growth in Ontario. **It's also important that the funds are distributed in a way that keeps the clean technology industry competitive and opens up opportunities to increase exports to the growing global market, where Ontario is already a leader.**

To help clean technology innovators scale up their work, Ontario can:

- Facilitate low-interest loans or green bonds to help innovative new technologies reach larger markets
- Fund projects to implement made-in-Ontario clean technologies in large industrial emitters, who can use these technologies to reduce energy use and greenhouse gas emissions
- Support research for promising new technologies and energy sources — for example, using hydrogen as a way to store surplus electricity through electrolysis, which could lead to huge savings for Ontario and prevent selling off surplus electricity at low prices
- Provide low interest loans and facilitate private investment to generate financial returns from energy retrofits for large commercial, residential, and institutional buildings with big up-front costs, but high return on investment potential²¹

10. Reduce methane emissions from organic waste.

Methane emissions from waste are rising. **About 90 per cent of the waste sector's emissions across Canada come from organic waste decomposing in landfills and releasing methane, a highly potent greenhouse gas.**

Ontario can reduce these harmful methane emissions by:

- Implementing policies to reduce the amount of organic waste bound for landfills, like an organics ban or programs to encourage more efficient resource recovery
- Continuing to regulate the capture of potent greenhouse gases like methane from large landfill sites — landfill gas capture systems currently reduce equivalent CO₂ emissions by 4 million tonnes per year²²
- Supporting and investing in programs to create renewable natural gas from organic digesters, composting facilities and smaller landfill sites

Ontario needs to reduce methane gas emissions from organic waste



11. Support low-income Ontarians in switching to clean, energy-efficient alternatives.

The province needs a climate plan that works for all Ontarians, not just those who can afford to transition to clean, energy-efficient technology on their own. The future is moving towards net-zero homes, electric vehicles, and exciting new low-carbon technologies. But the province needs to ensure that no one is left behind and stuck paying hefty energy bills for leaky homes they can't afford to fix up, or alternately freezing and sweltering in inefficient public housing buildings, schools, long-term care homes, and hospitals.

Low-income Ontarians will suffer greater impacts as climate change and extreme weather ramps up.

There is a risk that some Ontarians will lose their homes if they lack up-front capital to rebuild and repair homes damaged by floods and fires.

Here are a few ideas Ontario can implement to help level the playing field:

- Establish an incentive fund for low-income residents to access home energy efficiency upgrades, or increase funding for existing electricity and natural gas conservation programs aimed at low-income Ontarians
- Set up a low-interest loan program to provide up front capital to fund home energy retrofits that will pay for themselves over time, like Toronto's Home Energy Loan Program (HELP) which provides homeowners with low-interest loans of up to \$75,000 to cover the cost of home energy improvements
- Fund social housing retrofits (previously funded through the cap-and-trade system), which would help low-income Ontarians live in more comfortable, efficient and resilient homes and reduce carbon pollution from public buildings
- Fund school retrofits (previously funded through the cap-and-trade system). As temperatures rise, many schools can't make the upgrades they need to keep up a healthy learning environment — something all kids, regardless of economic status, deserve



Solar panels provide energy to the Deer Lake First Nation School



A smart thermostat is one of the home energy efficiency improvements that can help lower energy bills.

ADAPTING TO THE IMPACTS OF CLIMATE CHANGE

Communities across Ontario are facing more and more extreme weather brought on by climate change. Flooding, heat waves, forest fires, and new diseases will increase in the coming years, bringing health impacts and increased costs.

More data is needed to help predict local impacts and make a plan to adapt to them. This is no small feat, which is why Ontario needs a separate plan to help communities adapt, with its own funding and resources.

Dealing with the impacts of climate change is expensive work – it’s much more costly than reducing the pollution causing these impacts. Ontario can’t lose focus on cutting carbon pollution. It doesn’t make economic sense, and it doesn’t make sense for our health, or our climate.



Sandbags set up to hold back flood waters

CONCLUSION

The Ontario government has a wide range of solutions at its fingertips to reduce carbon pollution and support a thriving economy. Many of these have worked in other jurisdictions, or even here at home in Ontario. We don’t have to look far to find the best and the brightest working on world-leading solutions to climate change. Ontario’s growing clean technology sector is bursting with good ideas and new employment opportunities, thanks in part to the leadership role our province has taken in the past to address climate change. But without a strong plan to implement these solutions, Ontario risks getting left behind in a world rapidly shifting to a clean, low-carbon technologies.

Ontario needs a plan that delivers what Ontarians want: clean air, healthy people, good jobs, and a strong economy. This isn’t possible without seriously reducing carbon pollution. The good news is, Ontario has all the solutions at hand. Now it’s time to use them.



Taking action on climate change helps protect Ontario’s natural beauty

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